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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/720,313 | 11/24/2003 | Peter Bernhardt | TRW(EHR)6873 | 4296 |

7590 05/26/2005

TAROLLI, SUNDHEIM, COVELL,
TUMMINO & SZABO L.L.P.
1111 LEADER BLDG.
526 SUPERIOR AVENUE
CLEVELAND, OH 44114-1400

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| EXAMINER |
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FERGUSON, MICHAEL P

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| ART UNIT | PAPER NUMBER |
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3679

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/720,313 | BERNHARDT ET AL. | |
| | Examiner | Art Unit | |
| | Michael P. Ferguson | 3679 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 4-7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities:

Claim 4 (line 9) recites "said bellow lies". It should recite --said sealing bellows lies--.

For the purpose of examining the application, it is assumed that appropriate correction has been made.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al. (US 4,967,609).

As to claim 4, Takagi et al. disclose a ball joint comprising:

a housing **5**;

a ball pin **6**;

a sealing bellows **1** which lies against the housing and the ball pin in order to seal between the housing and the ball pin; and

wherein the housing has a cylindrical section with a holding surface against which a sealing surface of the sealing bellows lies, the cylindrical housing section adjoining a curved housing section, the curved housing section having a curved outer

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surface (having a curved peripheral surface in a cross-sectional view), the cylindrical housing section and the curved housing section being separated from each other by a step in the housing (Figure 1).

As to claim 5, Takagi et al. disclose a ball joint wherein the sealing bellows **1** includes a middle section that lies against the curved outer surface of the curved housing section and is retained by an interlocking fit (Figure 1).

4. Claims 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lavery et al. (US 6,439,795).

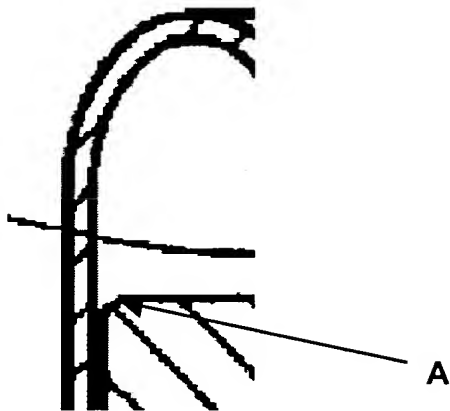
As to claim 4, Lavery et al. disclose a ball joint comprising:

a housing **220**;

a ball pin **114**;

a sealing bellows **240** which lies against the housing and the ball pin in order to seal between the housing and the ball pin; and

wherein the housing has a cylindrical section with a holding surface against which a sealing surface **258** of the sealing bellows lies, the cylindrical housing section adjoining a curved housing section, the curved housing section having a curved outer surface (curved at a portion **A**; Figure 2 reprinted below with annotations), the cylindrical housing section and the curved housing section being separated from each other by a step in the housing (Figure 2).



As to claim 5, Lavery et al. disclose a ball joint wherein the sealing bellows **240** includes a middle section that lies against the curved outer surface of the curved housing section and is retained by an interlocking fit (Figure 2).

As to claim 6, Lavery et al. disclose a ball joint comprising:

a housing **220**;

a ball pin **114**;

the housing and the ball pin being centered on an axis;

a sealing bellows **240** which lies against the housing and the ball pin in order to seal between the housing and the ball pin; and

wherein the housing has a cylindrical holding surface against which a sealing surface **258** of the sealing bellows lies, the cylindrical holding surface being centered on the axis and extending axially, the cylindrical holding surface adjoining a radially outwardly extending step extending from one end of the cylindrical surface and defining a step surface, and the housing having a curved outer surface axially curved radially inwardly from the radially outer end of the step (curved at a portion **A**), the step being

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located between and adjoining the cylindrical surface and the curved outer surface (Figure 2).

As to claim 7, Lavery et al. disclose a ball joint wherein the sealing bellows **240** includes a middle section that lies against the curved outer surface of the housing **220** and is retained by an interlocking fit (Figure 2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al.

As to claim 6, Takagi et al. disclose a ball joint comprising:

a housing **5**;

a ball pin **6**;

the housing and the ball pin being centered on an axis;

a sealing bellows **1** which lies against the housing and the ball pin in order to seal between the housing and the ball pin; and

wherein the housing has a cylindrical holding surface against which a sealing surface of the sealing bellows lies, the cylindrical holding surface being centered on the axis and extending axially, the cylindrical holding surface adjoining a radially outwardly extending step extending from one end of the cylindrical surface and defining a step

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surface, and the housing having a curved outer surface (having a curved peripheral surface in a cross-sectional view), the step being located between and adjoining the cylindrical surface and the curved outer surface (Figure 1).

Takagi et al. fail to disclose a ball joint comprising a housing having a curved outer surface axially curved radially inwardly from the radially outer end of the step.

The applicant is reminded that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a ball joint as disclosed by Takagi et al. to have a housing having a curved outer surface axially curved radially inwardly from the radially outer end of the step as such practice is a design consideration within the skill of the art.

As to claim 7, Takagi et al. disclose a ball joint wherein the sealing bellows 1 includes a middle section that lies against the curved outer surface of the housing 5 and is retained by an interlocking fit (Figure 1).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MPF
05/23/05



DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600